

**BETULA PAPYRIFERA - ALNUS RUBRA /
POLYSTICHUM MUNITUM**

Paper birch - red alder / sword fern
Abbreviated Name: BEPA-ALRU/POMU

Sample size = 5 plots

DISTRIBUTION: Known only from the Fraser Lowland and adjacent hills in Whatcom County. Possible in Skagit County and adjacent BC.

GLOBAL/STATE STATUS: GNRs1. Rare and local. There are few stands. Most stands are small, set in agricultural landscapes, and are the result of regeneration after timber harvest. Only one known relatively high-integrity occurrence.

ID TIPS: Dominated by paper birch or paper birch and red alder. Sword fern usually at least prominent.

ENVIRONMENT: Sites are moist to very moist and appear to be relatively nutrient-rich. Most sites are on flat or slightly undulating plains, with some on adjacent foothills. Soil texture varies from gravelly loam to silty clay loam, with silt loam most common. Soils are somewhat poorly drained to well drained.

Precipitation: 42-59 inches (mean 46)

Elevation: 20 to 500 feet, maybe higher

Aspect/slope: mostly flat/ slope 0-21%

Slope position: plain, short

Soil series: Skipopa, Whatcom, Nati

DISTURBANCE/SUCCESSION: This is an early- to mid-successional association that can regenerate after fire, windthrow, or timber harvest. Birch and alder are short-lived (about 100-140 years) and prolific wind-borne seed producers. Birch also sprouts vigorously after fire or cutting. If conifers establish in the understory, then they are expected to dominate after the birch and alder die in the absence of further disturbance.

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Vegetation Composition Table (selected species):

Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found.

Trees	Kartesz 2003 Name	Con	Cov
paper birch	Betula papyrifera var. papyrifera	100	44
red alder	Alnus rubra	80	38
Douglas-fir	Pseudotsuga menziesii var. menziesii	80	7
cascara	Frangula purshiana	80	3
bigleaf maple	Acer macrophyllum	60	20
grand fir	Abies grandis	60	7
black cottonwood	Populus balsamifera ssp. trichocarpa	60	5
western hemlock	Tsuga heterophylla	40	11
western redcedar	Thuja plicata	40	10
Shrubs, Subshrubs			
common snowberry	Symphoricarpos albus var. laevigatus	100	15
Indian plum	Oemleria cerasiformis	100	13
salmonberry	Rubus spectabilis var. spectabilis	100	12
vine maple	Acer circinatum	80	33
red elderberry	Sambucus racemosa var. racemosa	80	6
trailing blackberry	Rubus ursinus var. macropetalus	60	22
oceanspray	Holodiscus discolor	40	8
swamp currant	Ribes lacustre	40	2
dwarf Oregongrape	Mahonia nervosa	40	2
orange honeysuckle	Lonicera ciliosa	40	2
Graminoids			
Dewey's sedge	Carex deweyana var. deweyana	60	4
Forbs and Ferns			
sword fern	Polystichum munitum	100	21
spreading woodfern	Dryopteris expansa	60	6
false lily-of-the-valley	Maianthemum dilatatum	60	5
bracken fern	Pteridium aquilinum var. pubescens	40	7
lady-fern	Athyrium filix-femina ssp. cyclosorum	40	2
fringe-cup	Tellima grandiflora	40	+
western trillium	Trillium ovatum ssp. ovatum	40	+

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VEGETATION: Dominated by paper birch or a mix of birch and red alder. Bigleaf maple, cascara, Douglas-fir, and grand fir are frequently present and the maple is sometimes co-dominant. Western hemlock and western redcedar are sometimes prominent. Understory is characterized by sword fern, which is prominent to dominant. A variable shrub layer of common snowberry, salmonberry, Indian plum, vine maple, and/or trailing blackberry is present, each of which is sometimes co-dominant. Other species usually present include red elderberry, Dewey's sedge, spreading woodfern, and false lily-of-the-valley.

CLASSIFICATION NOTES: Bortel (1976) described multiple paper birch community types from Whatcom County that have some affinity to this association. Not recognized by NatureServe (2004).

MANAGEMENT NOTES: English ivy (*Hedera helix*) and herb Robert (*Geranium robertianum*) are non-native invaders of most immediate concern. If no conifer is present in the stand, succession in the absence of disturbance could lead to shrub dominance. This association requires disturbance of some kind for long-term persistence.



Plot locations
of BEPA-ALRU/POMU
in the Puget Trough